

Ramona Vernal Pools Study



THE EXISTING PROBLEM...

- Vernal pools contain species protected by the Federal Endangered Species Act
 - Unpermitted impact to species is unlawful
 - Conflicts with private land use



A vertical strip on the left side of the slide shows a topographic map of a river valley. The map features contour lines, a river channel, and some infrastructure like roads or bridges. The colors are muted, with greens and browns.

OUR PROPOSED SOLUTION...

- **Develop strategy for addressing the vernal pool issue**
 - Adequate protection for species
 - Prevent future listings
 - Assist landowners

Presentation overview

Vernal pools...

1. What are they?
2. Where are they?
3. Why are they significant?
4. Our strategy
5. Methods
6. Analysis
7. Next steps



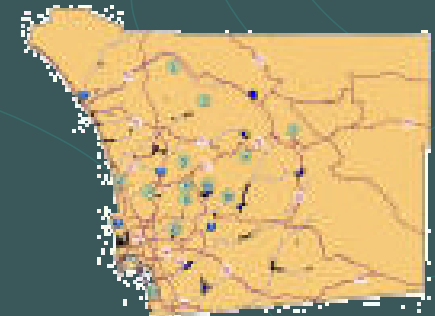
1. WHAT ARE THEY?

- **Vernal Pools**
 - Temporary wetlands
 - Fill with rainwater during Winter
 - Support unique plants and animals
 - Dry out completely during Summer



2. WHERE ARE THEY?

- **In General**
 - Grass-lands and shrub-lands
 - Level ground
 - Clay or hardpan soils
- **California**
 - Central Valley
 - San Diego County
 - Ramona



3. WHY ARE THEY SIGNIFICANT?

- **Unique plants & animals**

- *Fairy Shrimp*
- *Button Celery*
- *Downingia*

- **Wetland animals**

- *Birds*
- *Tadpoles, Frogs, Salamanders*

- **Endangered species**

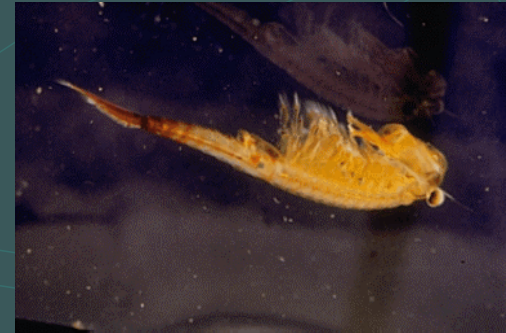
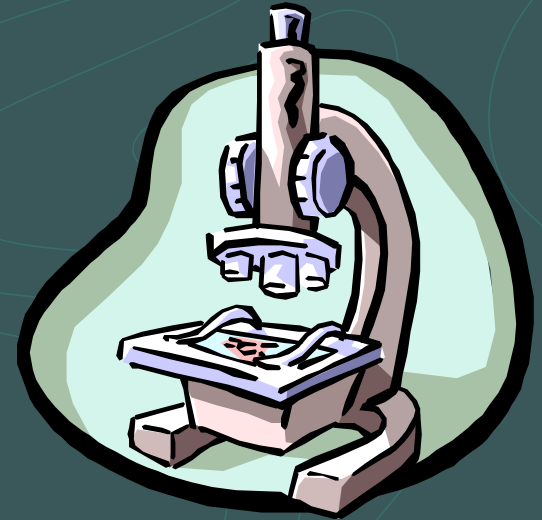


Photo: Christopher Rascon



4. OUR STRATEGY

- **Scientific study**
 - Map vernal pools
 - Request access to private land
 - Record information about pools
 - Plants, animals, water, and surroundings
 - Collect samples of fairy shrimp





4. OUR STRATEGY

- **Evaluation of Ramona's Vernal Pools**
 - Use modeling to show relative “health” of pools
- **Design Preservation & Management Plan**
 - Evaluate development applications
 - Outline for managing preserved pools

4. OUR STRATEGY

- Gather input on the **Preservation and Management Plan**
 - Landowners and other stakeholders
 - Ramona Community Planning Group
 - US Fish & Wildlife
 - CA Dept. of Fish & Game
 - Environmental Protection Agency



5. METHODS

- Gathered information
 - Previous studies
 - Recent surveys
 - Public lands
 - Private lands
 - 100+ letters mailed
 - Granted access by 25 landowners
- Still some information gaps



5. METHODS

- **Information gathered**
 - Watershed condition
 - Pool basin condition
 - Surrounding land use
 - Plant & animal species present
 - Vegetation cover
 - Pool location, name, observers, etc.



A vertical strip on the left side of the slide shows a topographic map of a river valley. The map features contour lines, a river channel, and a yellow line indicating a specific path or boundary.

5. METHODS

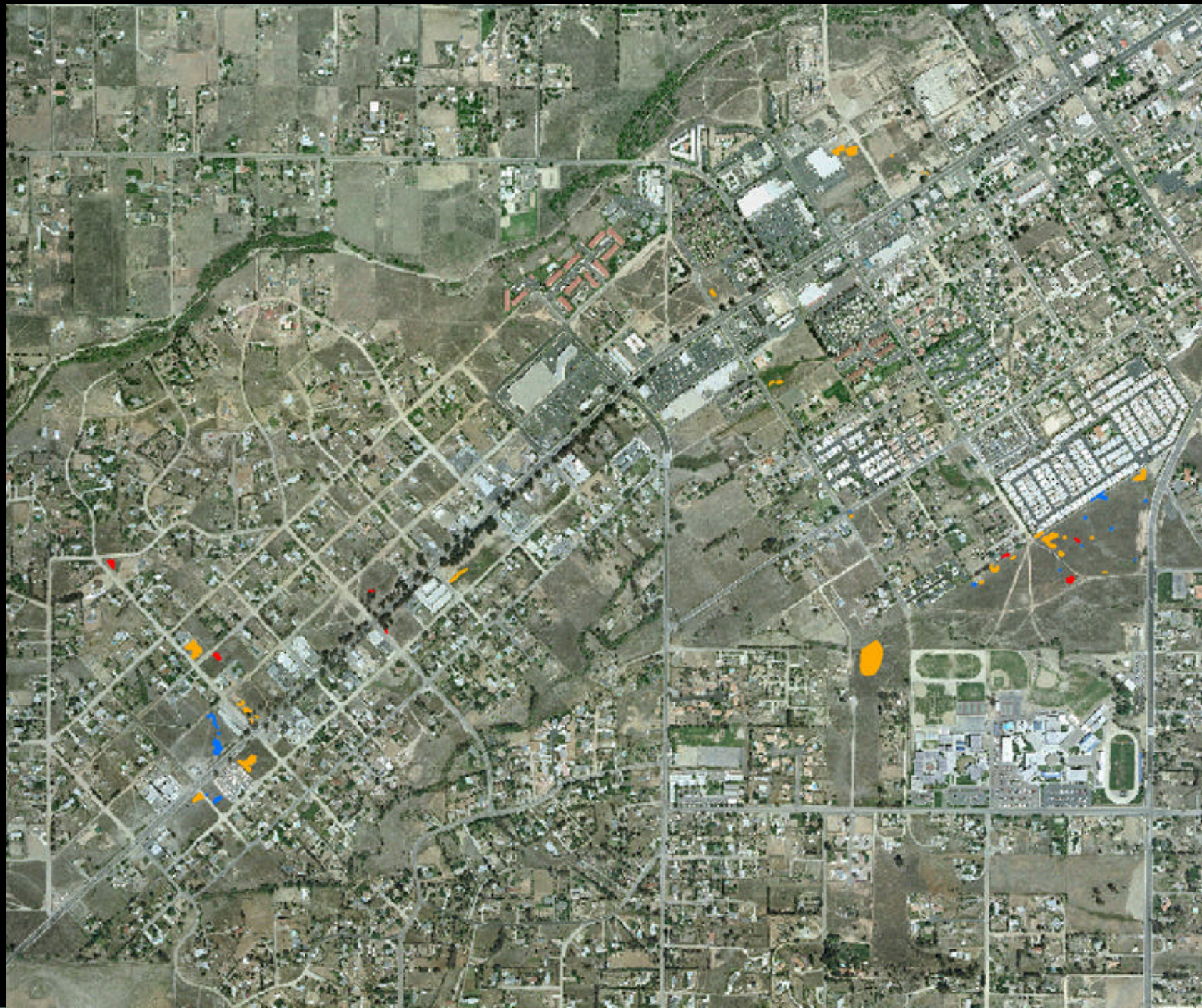
- Mapped existing vernal pools
 - Sources...
 - Aerial photograph
 - Ground mapping (with GPS)
 - Historical records
 - Combined results
 - 185 pools mapped



6. ANALYSIS

- **Factors evaluated for vernal pool model**
 - Fairy Shrimp
 - Types of plants
 - Native vegetation cover
 - Exotic vegetation cover
 - Soil type
 - Disturbance to pool and/or watershed
 - Pool size
 - Number of pools nearby
 - Distance to development
- **Preliminary modeling output**
 - Relative, overall “health” of each pool



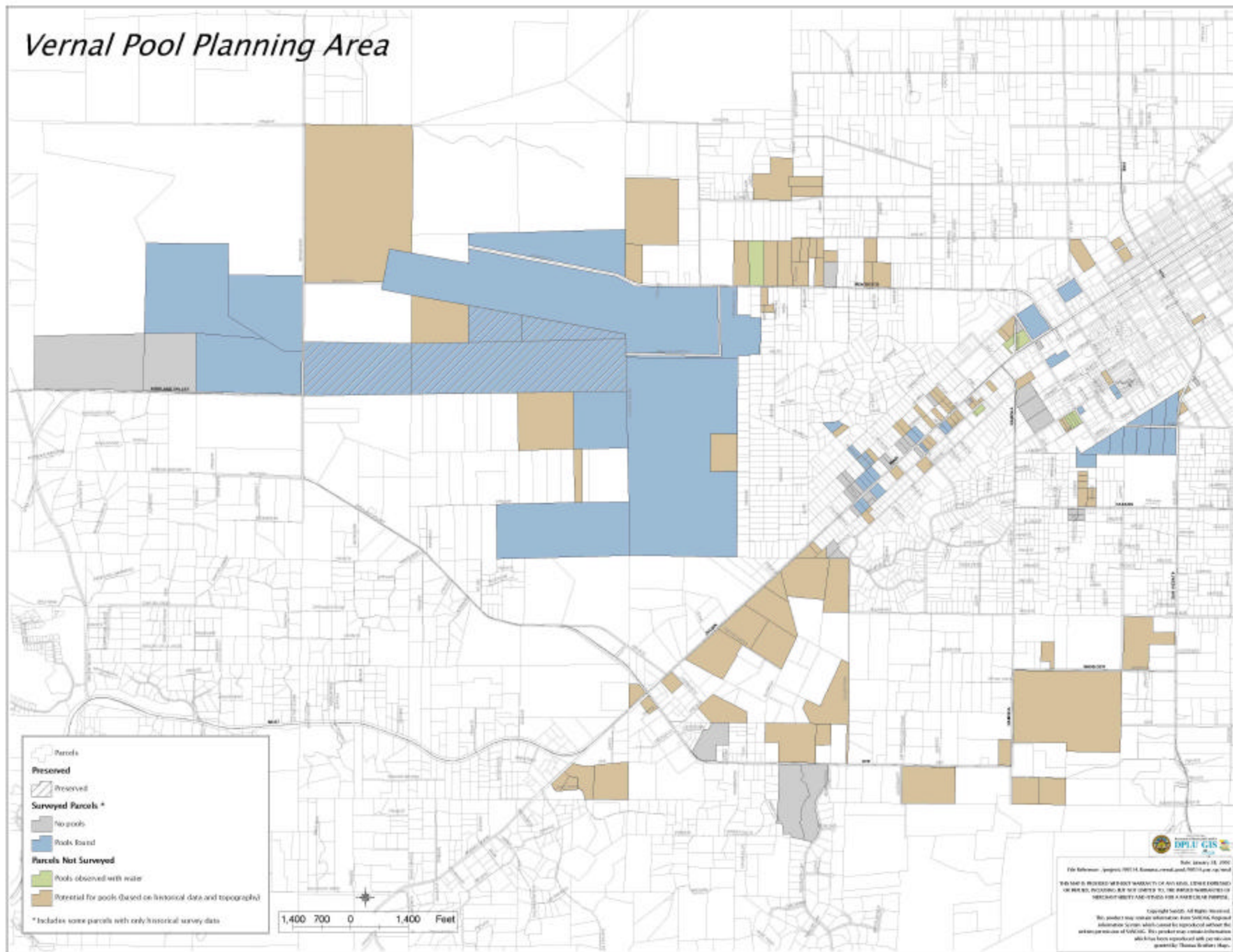


A vertical strip on the left side of the slide shows a topographic map of a river valley. The map features contour lines, a river channel, and various land use patterns. The colors are muted, with greens and browns. The river flows from the top towards the bottom of the strip.

6. ANALYSIS

- Summary of property surveys
 - Surveys include credible scientific records
 - 2003 County surveys and previous efforts
- Map legend
 - Preserved
 - Vernal pools present
 - Vernal pools observed (but not surveyed)
 - Vernal pools absent
 - Potential for vernal pools to exist

Vernal Pool Planning Area





7. NEXT STEPS

- **Develop Preservation and Management Plan**
 - **Vernal pools need long-term management**
 - **Vernal pool mitigation banks**
 - **Potential for acquisition from willing sellers**
 - **Incorporate into North County MSCP**



7. NEXT STEPS

- *Community input*
- Develop Preservation & Management Plan
- Approval by various agencies
- Incorporate into North County MSCP
 - MSCP approval process